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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,870	03/14/2001	Tokuro Kubo	FUJO 18.429	3399

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EXAMINER

HA, DAC V

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/805,870

Applicant(s)

KUBO ET AL.

Examiner

Dac V. Ha

Art Unit

2634

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-11 and 13-16 is/are rejected.
7) ☒ Claim(s) 12 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-16 objected to because of the following informalities: claims 1-16 are replete with inappropriate spacing between words. Applicants are required to find and correct all of the above mentioned defect. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 3, 4** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 3 recites the limitation "said level adjustment" in line 2. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 4 recites the limitation "said phase adjustment" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

Art Unit: 2634

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-4, 8, 9** are rejected under 35 U.S.C. 102(e) as being anticipated by Wessel et al. (US 6,275,685) hereinafter Wessel.

Regarding claim 1, Wessel teaches the claimed subject matter as follows.

“(a) opening the feedback loop” (Figure 6, elements 713, 743; Col. 8, lines 9-16);

“(b) adjusting both a level and a phase ... communications apparatus” (Figure 4, elements 16, 18; Col. 6, lines 47-50; Col. 8, lines 17-21);

“(c) closing the feedback loop” (Figure 5, element 60; Figure 6, elements 84, 722, 734, 726, 716, 727, 728, 713, 82, 750, 752, 754, 756, 757, 746, 758, 743; Col. 8, line 34 to Col. 9, line 25);

“(d) generating/updating ... compensation coefficients” (Col. 8, line 34 to Col. 9, line 25; Col. 9, line 61 to col. 11, line 40).

Regarding claim 2, Wessel further teach the followings.

“(e) activating a digital section ... prior to step (a)” (Figure 6, elements 704, 706, 710);

“(f) activating an analog section ... between steps (a) and (b)” (Figures , 4, 5, element 60).

Regarding claim 3, Wessel further teaches the claimed subject matter “wherein said level adjustment ... apparatus” in Col. 6, lines 51-56.

Art Unit: 2634

Regarding claim 4, Wessel further teaches the claimed subject matter "wherein said phase adjustment ... compensation device" in Col. 1, lines 60-62; Col. 3, lines 4-11; Col. 6, line 51 to Col. 7, line 12.

Regarding claim 8, Wessel further teaches the claimed subject matter "wherein ... compensation coefficients" in Figures 4-6; Col. 6, line 35 to Col. 11, line 40.

Regarding claim 9, Wessel further teaches the claimed subject matter "wherein ... can be set" in Figures 4-6; Col. 6, line 35 to Col. 11, line 40.

Regarding claim 13, Wessel further teaches the claimed subject matter "wherein ... which is adjusted" in Figures 4-6.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claim 10, 14, 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessel.

Regarding claim 6, the claimed subject matter "wherein ... a whole" would have been obvious to one skilled in the art.

Regarding claim 10, the claimed subject matter "wherein ... the level" would have been obviously optional to one skilled in the art since Wessel suggest many algorithm could be utilized to generate the compensation parameter (col. 10, line 4).

Art Unit: 2634

Regarding claim 14, the claimed subject matter "wherein ... transmitting unit" would have been obvious to one skilled in the art since removing the unwanted out-of-band is desire for such communication system.

Regarding claim 16, the claimed subject matter "wherein ... termination unit" would have been obvious to one skilled in the art as optional.

10. **Claims 5, 7, 11, 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wessel in view of Wright et al. (US 6,697,436) (hereinafter Wright).

Regarding claim 5, Wessel teaches all the claimed subject matter in claim 5, as stated above, except for the claimed subject matter "(g) adjusting ... each carrier". Wessel teaches the compensation method utilized in a multi-carrier environment (Abstract). Wright also teaches method for distortion compensation for multi-carrier environment, in which, each carrier is adjusted individually (Col. 55, line 64 to Col. 56, line 21). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust each carrier (of Wessel) individually as taught by Wright as a desire of system application.

Regarding claim 7, Wessel teaches all the claimed subject matter in claim 5, as stated above, except for the claimed subject matter "wherein ... test signal". However, this claimed subject matter would have been optional to one skilled in the art. For example, Wright teaches the compensation method including training and calibration for generating compensation coefficients (Figure 9).

Regarding claim 11, Wright further teaches the claimed subject matter "wherein ... coefficients" in 9, lines 20-22 as optional.

Art Unit: 2634

Regarding claim 15, Wright further teaches the claimed subject matter "wherein ...step (b)" in Col. 8, line 66 to Col. 10, line 67; Figure 9.

Allowable Subject Matter

11. **Claim 12** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khan et al. (US 5,959,499) disclose Predistortion System And Method Using Analog Feedback Loop For Loop-Up Table Training.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2634

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', with a horizontal line drawn underneath it.

Dac V. Ha
Examiner
Art Unit 2634